

Express Mail No. EV813998732US
Docket No.: 385478008US2
(PATENT)

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of:
Butters et al.

Application No.: 10/575,182

Conf.: 3490

U.S. Filing Date: April 7, 2006

Art Unit: 2862

For: SYSTEM AND METHOD FOR
CHARACTERIZING A SAMPLE BY LOW-
FREQUENCY SPECTRA

Examiner: Not Yet Assigned

INFORMATION DISCLOSURE STATEMENT (IDS)

MS Missing Parts
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

Pursuant to 37 CFR 1.56, 1.97 and 1.98, the attention of the Patent and Trademark Office is hereby directed to the references listed on the attached PTO/SB/08. It is respectfully requested that the information be expressly considered during the prosecution of this application, and that the references be made of record therein and appear among the "References Cited" on any patent to issue therefrom.

This Information Disclosure Statement is filed before the mailing date of a first Office Action on the merits as far as is known to the undersigned (37 CFR 1.97(b)(3)).

Applicant submits herewith copies of foreign and non-patents in accordance with 37 CFR 1.98(a)(2).

This Information Disclosure Statement is not to be construed as a representation that: (i) a search has been made; (ii) additional information that may be material to the examination of this application does not exist; (iii) the information, protocols, results and the like reported by third parties are accurate or enabling; or (iv) the cited information is, or is considered to be, material to patentability. In addition, applicant does not admit that any enclosed item of information constitutes prior art to the subject invention and specifically reserves the right to demonstrate that any such reference is not prior art.

It is submitted that the Information Disclosure Statement is in compliance with 37 CFR 1.98 and the Examiner is respectfully requested to consider the listed references.

The Director is hereby authorized to charge any deficiency in the fees filed, asserted to be filed or which should have been filed herewith (or with any paper hereafter filed in this application by this firm) to our Deposit Account No. 50-0665, under Order No. 385478008US2.

Dated: December 20, 2006

Respectfully submitted,

By 

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Substitute for form 1449A/B/PTO INFORMATION DISCLOSURE STATEMENT BY APPLICANT <i>(Use as many sheets as necessary)</i>				Complete if Known	
				Application Number	10/575,182-Conf. #3490
				U.S. Filing Date	April 7, 2006
				First Named Inventor	John T. Butters
				Art Unit	2862
				Examiner Name	Not Yet Assigned
Sheet	1	of	5	Attorney Docket Number	385478008US2

U.S. PATENT DOCUMENTS					
Examiner Initials*	Cite No. ¹	Document Number	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number-Kind Code ² (if known)			
		US-2004-0222789-A1	11-11-2004	Pinsky et al.	
		US-2005-0176391-A1	08-11-2005	Butters	
		US-4,031,462	06-21-1977	Bouvier et al.	
		US-4,095,168	06-13-1978	Hlavka	
		US-4,365,303	12-21-1982	Hannah et al.	
		US-4,682,027	07-21-1987	Wells	
		US-4,692,685	09-08-1987	Blaze	
		US-4,751,515	06-14-1988	Corum	
		US-4,822,169	04-18-1989	Distl et al.	
		US-5,254,950	10-19-1993	Fan et al.	
		US-5,305,751	04-26-1994	Chopp et al.	
		US-5,339,811	08-23-1994	Ohta et al.	
		US-5,343,147	08-30-1994	Sager et al.	
		US-5,446,681	08-29-1995	Gethner et al.	
		US-5,458,142	10-17-1995	Farmer et al.	
		US-5,465,049	11-07-1995	Matsuura et al.	
		US-5,508,203	04-16-1996	Fuller et al.	
		US-5,541,413	07-30-1996	Pearson et al.	
		US-5,574,369	11-12-1996	Hibbs	
		US-5,583,432	12-10-1996	Barnes	
		US-5,656,937	08-12-1997	Cantor	
		US-5,696,691	12-09-1997	Schlosser et al.	
		US-5,734,353	03-31-1998	Van Voorhies	
		US-5,752,514	05-19-1998	Okamura et al.	
		US-5,789,961	08-04-1998	Bulsara et al.	
		US-5,944,782	08-31-1999	Noble et al.	
		US-5,952,978	09-14-1999	VanVoorhies	
		US-5,955,400	09-21-1999	Yokosawa et al.	
		US-5,959,548	09-28-1999	Smith	
		US-6,020,782	02-01-2000	Albert et al.	
		US-6,028,558	02-22-2000	Van Voorhies	
		US-6,084,399	07-04-2000	Nagaishi et al.	
		US-6,136,541	10-24-2000	Gulati	
		US-6,142,681	11-07-2000	Gulati	
		US-6,150,812	11-21-2000	Pinsky et al.	
		US-6,159,444	12-12-2000	Schlenga et al.	
		US-6,196,057	03-06-2001	Discenzo	
		US-6,204,821	03-20-2001	Van Voorhies	
		US-6,285,249	09-04-2001	Bulsara et al.	
		US-6,294,911	09-25-2001	Shimazawa et al.	
		US-6,320,369	11-20-2001	Hidaka et al.	

Examiner Signature		Date Considered	
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Sheet	2	of	5	Attorney Docket Number	385478008US2

		US-6,323,632	11-27-2001	Husher et al.	
		US-6,541,978	04-01-2003	Jacques Benveniste	
		US-6,665,553	12-16-2003	Kandori et al.	
		US-6,724,188	10-02-2003	Butters	
		US-6,760,674-A1	07-06-2004	Bombard	
		US-6,815,949-A1	11-09-2004	Kandori et al.	
		US-6,885,192-A1	04-26-2005	Clarke et al.	
		US-6,952,652-A1	10-04-2005	Butters	
		US-6,995,558-A1	02-07-2006	Butters et al.	
		US-7,081,747-B2	07-25-2006	Butters et al.	

FOREIGN PATENT DOCUMENTS						
Examiner Initials*	Cite No. ¹	Foreign Patent Document	Publication Date	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	T ⁶
		Country Code ³ -Number ⁴ -Kind Code ⁵ (if known)	MM-DD-YYYY			
		DE-1815674	07-24-1969	Atomic Energy Commission		
		EP-0060392 A2	09-22-1982	Sodeco Compteurs De Geneve		
		WO-87-02981 A1	05-21-1987	Centre National De La Recherche Scientifique		
		WO-91-13611 A1	09-19-1991	Inst Nat Sante Rech Med		
		WO-91-14181 A1	09-19-1991	Inst Nat Sante Rech med		
		WO-94-17406 A1	08-04-1994	Benveniste		
		WO-99-54731 A1	10-28-1999	Digibio		
		WO-00-01412 A1	01-13-2000	Digibio		
		WO-00-17637 A1	03-30-2000	Digibio		
		WO-00-17638 A1	03-30-2000	Digibio		
		WO-03-102566 A2	12-11-2003	WavBank, Inc.		
		WO-03-83439 A2	10-09-2003	WavBank, Inc.		
		WO-05-036131 A2	04-21-2005	WavBank, Inc.		

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant. * CITE NO.: Those application(s) which are marked with an single asterisk (*) next to the Cite No. are not supplied (under 37 CFR 1.98(a)(2)(iii)) because that application was filed after June 30, 2003 or is available in the IFW. ¹ Applicant's unique citation designation number (optional). ² See Kinds Codes of USPTO Patent Documents at www.uspto.gov or MPEP 901.04. ³ Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). ⁴ For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁵ Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. ⁶ Applicant is to place a check mark here if English language Translation is attached.

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NON PATENT LITERATURE DOCUMENTS			
Examiner Initials	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T ²
		"Direct Nanoscale Conversion of Bio-Molecular Signals Into Electronic Information," DARPA Defense Sciences Office, 2 pages, http://www.darpa.mil/dso/thrust/biosci/moldice.htm .	
		"Engineered Bio-Molecular Nano-Devices/Systems (MOLDICE)," DARPA Defense Sciences Office, 1 page, http://www.darpa.mil/dso/thrust/biosci/moldice.htm .	
		"The First International Workshop on TFF: What is Biophysics Behind?" Abstract Booklet, June 15, 1996, 18 pages, http://www.biophysics.nl/idras.htm .	
		AISSA et al., "Transatlantic Transfer of Digitized Antigen Signal by Telephone Link," Digi Bio-FASEB 97, Abstract only, http://digibio.com/cgi-bin/node.pl?lg=us&nd=n4_3 .	
		AISSA et al., "Molecular signaling at high dilution or by means of electronic circuitry," Journal of Immunology, 146A, 1994, Abstract only.	
		ATKINS, P.W., "Rotational and Vibrational Spectra," Physical Chemistry, 1990, Pages 458-497, Oxford University Press, Oxford, UK.	
		BENVENISTE et al., "A Simple and Fast Method for in Vivo Demonstration of Electromagnetic Molecular Signaling (EMS) via High Dilution or Computer Recording," FASEB Journal, Volume 13, p. A163, 1999, Abstract only.	
		BENVENISTE et al., "Digital Biology: Specificity of the Digitized Molecular Signal," FASEB Journal, Volume 12, p. A412, 1998, Abstract only.	
		BENVENISTE et al., "Specific Remote Detection of Bacteria Using an Electromagnetic/Digital Procedure," FASEB Journal, Volume 13, p. A852, 1999, Abstract only, http://digibio.com/cgi-bin/node.pl?lg=us&nd=n4_12 .	
		BENVENISTE et al., "The Molecular Signal is not Functional in the Absence of "Informed" Water," FASEB Journal, Volume 13, p. A163, 1999, Abstract only, http://digibio.com/cgi-bin/node.pl?lg=us&nd=n4_11 .	
		BENVENISTE et al., "Digital biology: Specificity of the Digitized Molecular Signal," FASEB Journal, A412, 1997, Abstract only, http://digibio.com/cgi-bin/node.pl?lg=us&nd=n4_2 .	
		BENVENISTE et al., "Digital Recording/Transmission of the Cholinergic Signal," DigiBio - FASEB 96, Abstract only, http://digibio.com/cgi-bin/node.pl?lg=us&nd=n4_4 .	
		BENVENISTE et al., "Electronic Transmission of the Cholinergic Signal," FASEB Journal, A683, 1995, Abstract only.	
		BENVENISTE et al., "Transfer of Molecular Signals Via Electronic Circuitry," FASEB Journal, A602, 1993, Abstract only.	
		BENVENISTE, J., "From 'Water Memory' effects To 'Digital Biology'...", Understanding Digital Biology, 4 pages, http://www.digibio.com/cgi-bin/node.pl?nd=n3 , June 14, 1998.	
		BENVENISTE, J., "Molecular Signaling, What is so unacceptable for ultra-orthodox scientists?" 2 pages, http://www.digibio.com/cgi-bin/node.pl?nd=n5 .	
		BENVENISTE, J. et al., "Transfer of the Molecular Signal by Electronic Amplification," FASEB Journal, A398, 1994, Abstract only.	
		BINH, V., "An analytical survey of theoretical studies in the Area of magnetoreception," 11 pages, 1999, http://www.biomag.info/survey.htm .	
		BRAULT, J. et al., "The Analysis and Restoration of Astronomical Data via the Fast Fourier Transform," Astronomy and Astrophysics, Volume 13, No. 2, July 1971, pp 169-189.	
Examiner Signature			Date Considered

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NON PATENT LITERATURE DOCUMENTS			
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		BRIGHAM, E., "The Fast Fourier Transform and Applications," Prentice Hall, 1988, pp 131-145.	
		CHAPEAU-BLONDEAU, F., "Input-output gains for signal in noise in stochastic resonance," Physics Letters A, Vol. 232, pp. 41-48, July 21, 1997, Elsevier Science B.V.	
		CHAPEAU-BLONDEAU, F., "Periodic and Aperiodic Stochastic Resonance with Output Signal-to-Noise Ratio Exceeding That At The Input," International Journal of Bifurcation and Chaos, Vol. 9, No. 1, pp. 267-272, 1999, World Scientific Publishing Company.	
		COOLEY, J. et al., "An Algorithm for the Machine Calculation of Complex Fourier Series," Mathematics of Computation, April 1965, pp. 297-301, Vol. 19, No. 90, American Mathematical Society, Providence, Rhode Island.	
		DigiBio S.A., Experimental models, "From 'Water Memory' effects to 'Digital Biology,'" Biological Systems, http://digibio.com/cgi-bin/node.pl?nd=n7 .	
		DUHAMEL, P., et al., "'Split Radix' FFT Algorithm," Electronics Letters, The Institution of Electrical Engineers, Volume 20, No. 1, January 5, 1984, pp. 14-16.	
		GLANZ, J., "Sharpening the Senses With Neural 'Noise'," Science, Volume 277, No. 5333, September 19, 1997, 2 pages, http://complex.gmu.edu/neural/papers/others/science97_noise.html .	
		GORGUN, S., "Studies on the Interaction Between Electromagnetic Fields and Living Matter Neoplastic Cellular Culture," 22 pages, http://bodyvibes.com/study1.htm .	
		HOFFMAN, F., "An Introduction to Fourier Theory," 10 pages, http://aurora.phys.utk.edu/~forrest/papers/fourier/index.html .	
		INGRAM, D.J.E., "Spectroscopy at Radio and Microwave Frequencies," 1967, Pages 1-16, Butterworths, London, UK.	
		International Search Report for International Application No. PCT/US03/11834; Mailed on 10/09/2003; Applicant: WavBank, Inc.	
		KAUFMAN, I. et al., "Zero-dispersion stochastic resonance in a model for a superconducting quantum interference device," Physical Review E, Vol. 57, No. 1, pp.78-87, January 1998, The American Physical Society.	
		NEUHAUSER, R., "Hydrogenlike Rydberg Electrons Orbiting Molecular Clusters," Physical Review Letters, June 8, 1998, Pages 5089-5092, Vol. 80, No. 23, The American Physical Society, USA.	
		NOKAZI, D. et al., "Effects of Colored Noise on Stochastic Resonance in Sensory Neurons," Physical Review Letters, The American Physical Society, Volume 82, No. 11, March 15, 1999, 4 pages.	
		OPPENHEIM et al., "Digital Signal Processing," Prentice-Hall, 1975, ISBN 0-13-214635-5, pp. 87-121.	
		PROAKIS et al., "Advanced digital signal processing," Maxwell MacMillan, 1992, pp 31-57.	
		SOMA, R., "Noise Outperforms White Noise in Sensitizing Baroreflex Function in the Human Brain," Physical Review Letters, Vol. 91, No. 7, 4 pages, August 15 2003, The American Physical Society.	
		THOMAS, et al., "Direct Transmission to Cells of a Molecular Signal Via an Electronic Device," FASEB Journal, A227, 1995, Abstract only.	

Examiner Signature		Date Considered	
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		THOMAS et al., "Modulation of Human Neutrophil Activation by "Electronic" Phorbol Myristate Acetate (PMA)," DigiBio, Abstract only, http://www.digibio.com/cgi-bin/node.pl?lg=us&nd=n4_5 .		
		THOMAS, Y., et al., "Activation of human neutrophils by electronically transmitted phorbol-myristate acetate," Medical Hypotheses, Volume 54, No 1, pp 33-39.		
		TURIN, L., "A spectroscopic mechanism for primary olfactory reception," Chemical Senses, Volume 21, No. 6, pp. 773-791.		
		WEAVER, J., et al., "The response of living cells to very weak electric fields: the thermal noise limit," National Library of Medicine, 2 pages, March 2 1990, http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?db=PubMed&cmd=Retrieve&list_uids=2300806&dopt=Citation .		

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